

Amendments to the Claims:

The following listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for producing a homogeneous compressed gas mixture, said method comprising:

- premixing separately supplied gases to form a non-homogeneous gas mixture;
- passing the non-homogeneous gas mixture into ~~a static mixer or~~ a buffer tank;
- conveying the gas mixture from the ~~mixer or~~ buffer tank into a compressor;
- compressing the gas mixture in the compressor; ~~and~~
- withdrawing a substantially homogeneous compressed gas mixture from the compressor; and
- returning a portion of the compressed gas mixture withdrawn from the compressor through a return line to the buffer tank,
- wherein a control valve is installed in the return line for adjusting the return of compressed gas mixture to a desired volume percentage of the compressed gas withdrawn from the compressor, and wherein said gas mixture comprises at least one perfluorinated or partially fluorinated hydrocarbon or ether.

2. (Original) A method according to claim 1, wherein said gas mixture further comprises at least one gas selected from the group consisting of SF₆ and inert gases.

3. (Original) A method according to claim 2, wherein said mixture comprises an inert gas selected from the group consisting of noble gases, CO₂ and N₂.

4. (Original) A method according to claim 1, wherein said mixture comprises at least one perfluorinated or partially fluorinated hydrocarbon or ether and SF₆.

5. (Original) A method according to claim 1, wherein said mixture comprises at least one perfluorinated or partially fluorinated hydrocarbon and N₂.

6. (Original) A method according to claim 5, wherein said mixture consists of at least one perfluorinated or partially fluorinated hydrocarbon and N₂.

7. (Currently Amended) A method according to claim 1, wherein said mixture comprises at least one perfluorinated or partially fluorinated hydrocarbon selected from the group consisting of C₃F₈, CHF₂CF₃, CF₃CHFCF₃, CH₂FCF₃, CH₃CF₃, CHF₃, CF₄, CF₃CF₃[L] and CF₃OCHF₂.

8. (Original) A method according to claim 1, wherein the compressed gas mixture withdrawn from the compressor has a pressure of up to 13 bar.

9. (Canceled)

10. (Original) A method according to claim 1, wherein a homogeneous compressed gas mixture is produced having a composition which deviates by at most ±0.7 volume % from ideal homogeneity.

11. (Original) A method according to claim 1, wherein gas streams which are to be mixed are regulated using mass flow meters.

12. (Original) A method according to claim 11, wherein said method is carried out in a mobile mixing apparatus.

13. (Currently Amended) A method according to claim 1, further comprising introducing the substantially homogeneous compressed gas mixture as an insulating gas into a current-carrying underground cable, a gas-insulated circuit or a gas-insulated switch.

14. (New) A method according to claim 1, further comprising passing the non-homogeneous gas mixture into a static mixer prior to passing the non-homogeneous gas mixture into the buffer tank.

15. (New) A method according to claim 1, further comprising passing the non-homogeneous gas mixture into a static mixer prior to conveying the gas mixture into the compressor.

16. (New) The method according to claim 1, wherein a gas flow rate is greater than 200 standard m³ per hour.